

34175
S/O48/62/026/002/024/052
B117/B136

24,2200 (1147, 1164, 1482)

AUTHORS: Vlasov, A. Ya., Lapter, D. A., Ayurzanayn, B. A. and Smolin, R. P.

TITLE: Temperature dependence of the magnetic properties of Elivar

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 2, 1962, 287-290

TEXT: This paper was presented at a Conference on magnetism and antiferromagnetism. The authors studied the temperature dependence of magnetization, magnetic hysteresis, and coercive force. The studies were carried out on two test arrangements at the same time. Magnetization and coercive force were measured continuously with a vertical astatic magnetometer (Ref. 7: Drokin, A. I., Il'yushenko, V. A., Zh. eksperim. i teor. fiz., 29, no. 8, 339 (1955)). Magnetostriction was measured by transmitting strain gauges in the temperature range from -195° to +350°C and in magnetic fields of up to 3800 oe. Magnetic hysteresis was studied in the A-cycle (20-300-20°C and 20-400-20°C) in external magnetic fields (0-30 oe). Annealed (vacuum 10⁻⁴ mm Hg, 1100°C, 2 hr) and unannealed

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S/048/62/026/002/025/032
B117/B138

24,2200 (1147,1164,1482)

AUTHORS: Drokin, A. I., Cherkashin, V. S., Smolin, R. P., and
Yershov, R. Ye.

TITLE: Anhyseretic magnetization curves of ferromagnetic metals
and alloys

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya,
v. 26, no. 2, 1962, 291-295

TEXT: This paper was presented at a conference on magnetism and antiferro-
magnetism. The authors studied anhyseretic magnetization curves
obtained by different methods, and examined the possibility of obtaining
an ideal curve with the aid of a circulating variable field. 2 groups of
specimens were used (1st group: 99.91 % Ni; 96.92 % Ni; 3 % Cr; 90 % Ni,
10 % Cu, 99.32 % Ni. 2nd group: nickel, alloy steel 37XC (37Khs) and
iron with 0.07 % C). The authors chose specimens with quite wide
hysteresis loops and fairly low Curie points. The measurements (maximum
error 5 %) were made with a vertical astatic magnetometer. In the first
group anhyseretic curves were studied which had been obtained by

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X

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Anhyseteric magnetization curves...

mechanical (sonic irradiation at 20.5 Kcps) and thermal "shaking", and with a longitudinal variable field with vanishing amplitude. Mechanical shaking at low frequencies (50 cps) and periodic tapping in a magnetic field produced no anhyseteric curves. The second group was used to study magnetization of longitudinal and circulating variable fields. The curves obtained for a specimen heated above the Curie point and then cooled to the original temperature are very close to the theoretically ideal one. It was found experimentally that the anhyseteric curves will converge under uniform and increasing load not exceeding the elastic limit. At 24 kg/mm² (max. load) they coincide. The almost complete coincidence of all curves at the beginning indicates that, with regard to the circulation field, the remanence becomes more stable as the H_c of the specimen rises. Up to $H_{am} = H_c$, I_r changes linearly with field. If a circulating variable field with an amplitude of 2-3 H_c is applied the original remanence is reduced to some per cent of its former value. Thus, such a field may prevent hysteresis. The anhyseteric curves obtained by applying a circulating a longitudinal variable field with vanishing amplitude agree satisfactorily. M. A. Grabovskiy, R. I. Yanus are mentioned. There are 5 figures. 1 table.

Card 2/3

SMOLIN, R.P.; DROKIN, A.I.; RYKOV, A.S.; SALANSKIY, N.M.; ZYRYANOV, G.I.

Temperature hysteresis of the magnetic permeability of magnesium-
manganese and nickel-zinc ferrites. Izv. vys. ucheb. zav.; fiz.
no.4:34-39 '63. (MIRA 16:9)

1. Institut fiziki Sibirskogo otdeleniya AN SSSR.
(Ferrites (Magnetic materials))

DROKIN, A.I.; SMOLIN, R.P.; RYABINKINA, L.I.

Temperature dependence of the intensity of magnetization during heating or cooling of lithium ferrite-chromite in weak magnetic fields. Fiz. tver. tela 5 no.8:2059-2064 Ag '63. (MIRA 16:9)

1. Institut fiziki Sibirskogo otdeleniya AN SSSR, Krasnoyarsk.
(Lithium chromite ferrite--Magnetic properties)

L 185h8-63 EWT(1)/EWP(q)/EWT(m)/BDS AFFTC/ASD/ESD-3/IJP(C) JD
ACCESSION NR: AP3005309 S/0181/63/005/008/2059/2064

AUTHORS: Drokin, A. I.; Smolin, R. P.; Ryabinkina, L. I.

65
64
27

TITLE: Temperature dependence of magnetization during heating and cooling of lithium ferrite-chromite in weak magnetic fields

SOURCE: Fizika tverdogo tela, v. 5, no. 8, 1963, 2059-2064

TOPIC TAGS: magnetization, magnetic field, ferrite, Fe, Cr, Li, O, Curie point, electrical conductivity, hysteresis, compensation, demagnetization, sublattice, ceramics

ABSTRACT: The authors have investigated thermal magnetic hysteresis and electrical conductivity in the temperature interval from 20C to the Curie point for $Li_{2.0}Fe_{2.5}Cr_{2.5}O_{10}$ having a point of compensation. Polycrystalline samples of this material, in the form of bars 84 x 3 x 2.6 mm, were prepared by ordinary means of ceramic technology. It was discovered that the curves of temperature dependence on magnetization show characteristic features clearly emphasizing the two-sublattice structure of the ferrite. The magnetic prehistory of the samples has a marked effect on the behavior of these curves. It is possible to obtain two points of compensation artificially. The "magnetic memory" of lithium ferrite-chromite is

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L 18548-63
ACCESSION NR: AP3005309

preserved for a considerable range above the Curie point. It is necessary to heat samples at temperatures above 300C for complete demagnetization. No anomalies were observed in the electrical properties before or after the point of compensation during heating and cooling of the sample. Only magnetic transformations occurred at this point. Orig. art. has: 6 figures.

ASSOCIATION: Institut fiziki SO AN SSSR, Krasnoyarsk (Institute of Physics, Siberian Department, Academy of Sciences, SSSR)

SUBMITTED: 21Jan63

DATE ACQ: 06Sep63

ENCL: 00

SUB CODE: PH

NO REF SOV: 005

OTHER: 002

Card 2/2

AP4010317

investigate temperature magnetic hysteresis of monoferrites of different composition. Specimens were prepared with 50 mole percent Fe_2O_3 and 50 mole percent MeO , where $\text{Me} = \text{Mn, Mg, Ni, Co, Ba, Cu}$ or Li . The specimens were prepared by the usual ceramic technology in the form of $86 \times 3 \times 2 \text{ mm}^3$ rods. The values of the Curie points and coercive force in an 800 Oe field are listed in the table. Preliminary tests showed that the Zn, Cd and Ca ferrites were either nonferromagnetic or exhibited very weak magnetism so that their temperature magnetic hysteresis was not investigated. The magnetic moments of the specimens were measured on a vertical astatic magnetometer and the results were converted to obtain the specific magnetization σ in $\text{gauss cm}^3 \text{ g}^{-1}$. The results for nickel ferrite are shown in Fig.1 of the Enclosure. Analogous curves were obtained for cobalt, barium, lithium, and copper monoferrites. Analysis of the results indicates that temperature magnetic hysteresis in monoferrites is associated with the same processes as those occurring in metallic ferromagnets. In individual cases, specifically that of copper ferrite, the shape of the temperature magnetic hysteresis curve may be affected by the presence in the ferrite of different magnetic phases. Orig.art.has: 4 figures and 1 table.

ASSOCIATION: Institut fiziki Sibirskogo otdeleniya Akademii nauk SSSR (Institute of Physics, Siberian Division, Academy of Sciences, SSSR)

Card: 2/4

AP4010318

S/0048/64/028/001/0182/0186

AUTHOR: Smolin, R.P.; Drokin, A.I.; Zyryanov, G.I.; Rykov, A.S.

TITLE: Temperature magnetic hysteresis of Mg-Mn ferrites Report, Symposium on Questions of Ferro- and Antiferromagnetism held in Krasnoyarsk, 25 June-7 July 1962/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.28, no.1, 1964, 182-186

TOPIC TAGS: temperature magnetic hysteresis, magnesium manganese ferrite, ferrite, demagnetizing field, coercive force, grain size, hysteresis loop

ABSTRACT: Although the potential scientific and practical value of investigating temperature hysteresis of the magnetization of ferrites has been pointed out by a number of authors, so far there have been few investigations of the effect. D.A. Laptey and A.I. Drokin (Izv. VUZ, Fizika, 4, 111, 1961) investigated temperature magnetic hysteresis of nickel-zinc and manganese-zinc ferrites, but there have been no studies of the dependence of the effect on the composition, crystal structure, and other properties of ferrites. Accordingly, the present study was devoted to investigation of temperature magnetic hysteresis in polycrystalline ferrites representing various points on the MnO-MgO-Fe₂O₃ concentration triangle. In all, about 70 dif-

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ferent compositions were investigated. All the specimens were prepared by the usual ceramic technique and were in the form of rods of rectangular cross section measuring $2.8 \times 2.7 \times 86 \text{ mm}^3$. The measurements were carried out on a vertical astatic magnetometer. In most cases the temperature range extended from -183° to the Curie point. The results are presented in the form of curves of the specific magnetization ($\text{gauss cm}^3 \text{ g}^{-1}$) (or magnetization I) versus temperature for the full heating-cooling cycle. The effect of different factors on the shape of the curves is discussed. The following conclusions are drawn on the basis of the experimental results: 1. The reason for temperature magnetic hysteresis in Mg-Mn ferrites is irreversible domain wall motion. 2. The hysteresis decreases with increasing MnO concentration. 3. Increase of the temperature and the duration of annealing leads to decrease of the temperature magnetic hysteresis. 4. The size of the crystal grains has a significant influence on the magnetic properties of Mg-Mn ferrites: increase in the grain size leads to reduction of the hysteresis and coercive force. 5. The internal demagnetizing field has a significant influence on magnetization switching in Mg-Mn ferrites. 6. Most of the other regularities observed as regards temperature magnetic hysteresis in Mg-Mn ferrites are similar to the regularities typical of polycrystalline metals such as nickel, permalloy and work hardened Elinvar. Orig.art.has: 4 figures.

Card 2/3
2*Inst. Physics, Siberian dept AS USSR*

L 13088-65 EWT(1)/EED-2 ASD(m)-3/ESD(ga) S/0139/64/000/005/0168/0170

ACCESSION NR: AP4047365

AUTHORS: Smolin, R. P.; Drokin, A. I.; Terekhova, S. L.

TITLE: On the demagnetizing factor of polycrystalline magnesium-manganese ferrites

SOURCE: IVUZ. Fizika, no. 5, 1964, 168-170

TOPIC TAGS: magnesium ferrite, manganese alloy, demagnetizing factor, polycrystal, hysteresis loop

ABSTRACT: The purpose of the investigation was to clarify the dependence of several magnetic characteristics of Mg-Mn ferrites on the field demagnetization due to the shape of the ferromagnetic body (demagnetizing factor). The difficulties involved in determining the demagnetizing factor of polycrystalline Mg-Mn ferrites are also discussed. Ferrite samples of the same composition (45% Fe₂O₃, 35% MnO, and 20 mol. % MgO) were made in the forms of rectangular paral-

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ACCESSION NR: AP4047365

lelepipeds 76 x 2 x 3 mm and in the form of rings. The ring dimensions were either 28 mm o.d., 23 mm i.d., and 3 mm height or with o.d., i.d., and height 7, 3, and 2 mm respectively. The density and the dimension of the crystal grains were the same in all samples, but not the hysteresis loops. The dependence of the relative residual magnetization and coercive force on the demagnetizing factor for a rectangular sample was plotted and an attempt was made to reconcile the difference in the appearances of the hysteresis loops of the different samples, but with no success. Comparison with results obtained with ferrites of different compositions, in which the magnetization curves were plotted by different methods, lead to the following conclusions. 1. The form of the hysteresis loop of magnesium-manganese ferrites and its rectangularity are greatly influenced by the demagnetizing fields inside the sample and by the demagnetizing effect. The smaller the demagnetizing factor and the smaller the mass (or dimensions), the more rectangular the hysteresis loop. It is quite difficult to obtain highly rectangular loops

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ACCESSION NR: AP4047365

in bulky specimens, owing to the influence of the demagnetizing effect. 2. The existing methods of determining the demagnetizing factor (due to both the form and the internal demagnetization) are not satisfactory, and need further development. Orig. art. has: 3 figures.

ASSOCIATION: Institut fiziki SO AN SSSR (Institute of Physics SO AN SSSR)

SUBMITTED: 12Dec62

ENCL: 00

SUB CODE: MM, MEC

NR REF SOV: 001

OTHER: 002

Card 3/3

L 33176-65 EWT(l)/EWT(m)/I/EWP(b)/EWP(t) Pad IJP(c) JD/HW
ACCESSION NR: AP5005240 S/0057/65/035/002/0345/0347

AUTHOR: Salanskiy, N.M.; Drokin, A.I.; Smolin, R.P.; Gendelev, S.Sh.

31
30
B

TITLE: Barkhausen effect in a single-crystal nickel-cobalt ferrite

SOURCE: Zhurnal tekhnicheskoy fiziki, v.35, no.2, 1965, 345-347

TOPIC TAGS: Barkhausen effect, single crystal, ferrite, nickel, cobalt, tempera-
ture dependence

ABSTRACT: The Barkhausen effect was investigated in a single-crystal cobalt-doped nickel ferrite containing 2% CoO. The crystal was grown in an oxyhydrogen flame by the Verneuil method, and from it a 11 x 0.6 x 1.5 mm bar was cut with the large surface in the (100) plane and the long axis in the [001] direction. The resistivity of this crystal was only 0.05 ohm cm; it is suggested that this low resistivity may be due to an appreciable concentration of Fe²⁺. The number of Barkhausen jumps of duration greater than 100 nanosec was counted as the magnetizing field was swept from -66 to +66 Oe during the course of 1000 sec at temperatures from 300 to 77°K. The integral number of jumps increased almost linearly with the magnetizing field, and at room temperature the total number of jumps counted during

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L 33176-65

ACCESSION-NR: AP5005240

the magnetization reversal was about 3×10^5 . The number of Barkhausen jumps per magnetization reversal remained constant with decreasing temperature until a temperature of 180°K was reached; thereafter the number of jumps decreased rapidly and no jumps were detected at temperatures below 120°K , even when the magnetizing field was increased to 280 Oe. Hysteresis curves taken at 50 cps showed increasing loss with decreasing temperature in spite of the disappearance of the Barkhausen jumps. It is suggested that Barkhausen jumps may actually have occurred at the low temperatures but with amplitudes and durations such that they could not be recorded with the apparatus employed, and that this effect may be useful in the construction of low-noise amplifiers. A polycrystalline ferrite of the same composition (but with a resistivity of 10^{10} ohm cm) showed an increasing number of Barkhausen jumps with decreasing temperature. Orig.art.has: 3 figures.

ASSOCIATION: Institut fiziki SO AN SSSR, Krasnoyarsk (Institute of Physics, SO AN SSSR)

SUBMITTED: 06Apr64

UNCL

ENCL: 00

SUB CODE:SS,EC

NR REF SOV: 003

OTHER: 003

Card 2/2

LOGUTKO, A.L.; RODICHEV, A.M.; SALANSKIY, N.M.; SMOLIN, R.P.

Measuring the duration of magnetic reversal pulses. Fiz. met. i
metaloved. 20 no.2:306-308 Ag '65. (MIRA 18:9)

1. Institut fiziki Sibirskogo otdeleniya AN SSSR.

L 25512-66 EWT(l)/EWT(m)/EWP(w)/EWA(d)/T/EWP(t) IJP(c) JD
ACC NR: AP6011400 SOURCE CODE: UR/0057/66/036/003/0521/0525

AUTHOR: Drokin, A.I.; Salanskiy, N.M.; Popova, A.A.; Smolin, R.P. 50
B

ORG: Institute of Physics of the SO ANSSR, Krasnoyarsk (Institut fiziki SO ANSSR)

TITLE: Barkhausen effect in magnesium-manganese ferrite single crystals

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 3, 1966, 521-525 18

TOPIC TAGS: magnetic hysteresis, Barkhausen jump, single crystal, ferrite, magnesium, manganese, solid solution, temperature dependence

ABSTRACT: Magnetic hysteresis and the Barkhausen effect have been investigated at temperatures from 20 to -196° C in magnesium-manganese ferrite single crystals of six different compositions. The crystals were grown in an oxyhydrogen flame by the Verneuil technique, using an apparatus similar to that described by K.S. Popov (Izv. AN SSR, Ser. fiz. 10, 505, 1946). The compositions of the materials (expressed in mole percent of MgO, MnO, and Fe₂O₃) ranged between 7.5 and 25% MgO, 25 and 55.5% MnO, and 33.5 and 50% Fe₂O₃. Two of the samples contained 50 mole percent Fe₂O₃. All the crystals contained small quantities of hausmannite. Most of the measurements were made on 0.2 x 1.5 x 10 mm³ rectangular rods cut with the long axis in a [100] direction and the large face parallel to the (100) planes. The Barkhausen jumps were recorded during slow reversal of fields ranging in strength from 40 to 80 Oe. The hysteresis loops were highly rectangular at all temperatures, the squareness ratio in

Card 1/2 UDC: 538.12

L 25512-66

ACC NR: AP6011400

one case being 98.1%. For all the crystals the field distribution of Barkhausen jumps (number of jumps per unit change in the magnetizing field as a function of the magnetizing field) exhibited two sharp maxima at fields corresponding to the bends of the hysteresis loop. It is suggested that these maxima may be associated with nucleation and the disappearance of domain structure. The amplitude distribution of the Barkhausen jumps was approximately exponential in all the materials. The temperature dependence of the Barkhausen jump amplitude distribution for the two materials containing 50% Fe₂O₃ was anomalous. In the other four materials the numbers of Barkhausen jumps of all sizes increased with decreasing temperature, the number of jumps remaining approximately constant between about -160 and -80° C and varying greatly with the temperature at both lower and higher temperatures. It is suggested that the existence of a temperature interval in which the number of Barkhausen jumps is temperature independent may be of use in the design of low noise devices. In the two materials containing 50% Fe₂O₃ the number of Barkhausen jumps of all sizes decreased rapidly with decreasing temperature, and at the lowest temperatures the Barkhausen effect could not be observed at all, although hysteresis loops were present. No explanation is offered for this anomalous behavior. Orig. art. has: 5 figures and 1 table.

SUB CODE: 20

SUBM DATE: 14Apr65

ORIG. REF: 008

Card

2/2

PB

SMOLIN, Vl.

Relay of generations. Kryl.rod. 13 no.1:3-5 Ja '62.
(MIRA 15:2)

(Aeronautics)
(Lenin, Vladimir Il'ich, 1870-1924)

SMOLIN, Vl.

"Air-to-air." Kryl.rod. 13 no.6:18-19 Je '62.

(MIRA 19:1)

L 6859-65

EWT(m)

Pb-4 DIAAP/AFMDC/ASD(a)-5/AFETR/AFWL/SSD/BSD

ACCESSION NR: AR4044268

S/0272/64/000/006/0159/0159

SOURCE: Ref. zh. Metrologiya i izmeritel'naya tekhnika. Otdel'ny'y vy'pusk, 56
Abs. 6.32.1124

AUTHOR: Arsayev, M. I.; Zaglyadimov, D. M.; Rekhin, Ye. I.; Smolin, V. A.

TITLE: Scintillation installation for measurement of absolute activity and evaluation of the spectral composition of low-energy β -radiators

CITED SOURCE: Sb. Stsintillyatory* i stsintillyats. materialy*. Khar'kov, Khar'kovsk. un-t, 1963, 225-231

TOPIC TAGS: scintillator, measuring instrument, radiation measurement, measuring apparatus, beta radiation

TRANSLATION: There are given a block-diagram and basic data of an installation ensuring high effectiveness of registration and stability of operation with a sharp decrease in the influence of background radiations. Method of measurement consists of the introduction of a β -radiator into the composition of a liquid scintillator, as a result of which is attained 4π -geometry of count and is

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L 6859-65

ACCESSION NR: AR4044268

eliminated self-absorption of β -radiation. There are examined the electrical part of the installation and optimum conditions of registration of H^+ and C^+ .

SUB CODE: NP, OP

ENCL: 00

Card 2/2

SMOLIN, V.A.; KRASHENINNIKOV, I.S.; LYAPOROV, V.M.; VASIL'YEV, V.M.

Readout operation in the AI-100-1 analyzer. Mnogokan. izm. sist.
v iad. fiz. no.5:187-190 '63. (MIRA 16:12)

KARTSEV, V.Ya., inzh.; MADEKIN, I.A., inzh.; SMOLIN, V.I., inzh.

MKS-1 automatic guard for the prevention of the flying out of boards.
Der. prom. 8 no.10:26 0 '59. (MIRA 12:12)

1.Gosudarstvennyy institut po proyektirovaniyu novykh mashin dlya
lesozagotovok i splava.
(Circular saws)

SMOLIN, V.N.

Plenary session of the Technical Committee 22 "Motor **Vehicles**"
of the International Standardization Organization. Standart-
izatsiia 25 no.10:52-54 0 '61. (MIRA 14:9)
(Motor vehicles--Standards)

BARANOVSKIY, M.A.; SMOLIN, V.N.

Designation of surface roughness and the use of the \sim sign.
Standartizatsiia 24 no.5:50-51 My '60. (MIRA 14:3)
(Surfaces (Technology)—Standards)

SMOLIN, V.N.

Meeting of the Committee ISO/TK 57: "Quality of machined surfaces."
Standartizatsiia 26 no.2:57-59 F '62. (MIRA 15:2)
(Surfaces (Technology)--Standards)

SMOLIN, Vladimir Nikolayevich; SVIRIDOKHIN, I.I., podpolkovnik,
red.; CHAPAYEVA, R.I., tekhn. red.

[Happiness through difficulties]Schast'e trudnykh dorog.
Moskva, Voenizdat, 1962. 77 p. (MIRA 16:1)
(Fireboats)

(Neftyanyye Kamni region--Oil well drilling)
(Submarine--Fires and fire prevention)

1198

S/089/62/013/004/005/011
B102/B108

AUTHORS: Smolin, V. N., Polyakov, V. K., Yesikov, V. I.

TITLE: Heat transfer crisis of a steam-generating tube

PERIODICAL: Atomnaya energiya, v. 13, no. 4, 1962, 360 - 364

TEXT: The heat transfer crisis was investigated using a vertical tube made of 1X13H9T (1Kh19N9T) stainless steel, 1 mm thick and of 10 mm diameter. The tube was filled with chemically desalted water and was connected into a circulation. The rate of flow W_g , amounting to 850-7000 kg/m²-sec, was regulated by a valve 20 m away from the experimental portion. The water was heated electrically. At a pressure of 150 at, the thermal load q amounted to $(0.46 - 1.66) \cdot 10^6$ kcal/m²-hr. The temperature distribution along the experimental tube was measured with chromel-copel thermocouples which were arranged as shown in Fig. 1. The temperature of the water at the inlet to the heater, and the temperature of the water-steam mixture at the outlet of the tube, were measured with resistance thermometers. These were connected to appropriate secondary instruments for determining the

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Heat transfer crisis ...

S/089/62/013/004/005/011
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moment at which the crisis set in and for cutting off the supply of heat if the temperature of the tube wall then exceeded 600°C . Under a fixed thermal load the flow rate was varied and the experiment broken off at whatever flow rate caused the temperature jump on the tube wall to reach $10-15^{\circ}\text{C}$ at the moment of crisis. The dependence of the steam content on the critical rate of flow was measured for different values of q . The resulting family of curves showed a minimum between 2000 and 3000 $\text{kg}/\text{m}^2\text{-sec}$. As q increased, the curves flattened and lay deeper, the minimum being shifted towards higher values of w . The abrupt fluctuations in the wall temperature, indicating the approach of the crisis, were plotted under various boiling conditions. The trend of these graphs reveals the course of heat transfer in each individual case and makes it possible to draw general conclusions as to the development of the crisis; for example, the existence of a limit of w_{lim} is thereby confirmed. When w_{lim} is reached, the effect of the flow rate on the critical thermal load is reversed. When $w < w_{\text{lim}}$, the effects of translational motion outweigh those of the rotational motion, and when $w > w_{\text{lim}}$ the opposite is true. The critical thermal load is

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Heat transfer crisis...

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found from two equations of the form $y = ax^m z^n$, the range of application being given by $K_{lim} = \frac{1-x}{W_g} = 0.345 \cdot 10^{-3}$. If $\frac{1-x}{W_g} > K_{lim}$, then q_{cr}

$$= 9.1 \cdot 10^8 \frac{(1-x)^{3.2}}{W_g^{0.8}} \text{ kcal/m}^2 \cdot \text{hr, and if } \frac{1-x}{W_g} \leq K_{lim}, \text{ then}$$

$q_{cr} = 1.10^4 (1-\beta)^{1.11} \cdot W_g^{0.7} \text{ kcal/m}^2 \cdot \text{hr}$, where β is the steam content per unit volume. The two formulas hold for pressures of 150 at in tubes of 8 mm bore within the range of flow rates under consideration and with a steam content of not more than 50% by weight. The error of the formulas is $\pm 30\%$. There are 4 figures. X

SUBMITTED: June 10, 1961

Card 3/4

ACCESSION NR: AP4036525

S/0089/64/016/005/0417/0423

AUTHOR: Smolin, V. N.; Polyakov, V. K.; Yesikov, V. I.

TITLE: Experimental investigation of critical heat transfer

SOURCE: Atomnaya energiya, v. 16, no. 5, 1964, 417-423

TOPIC TAGS: critical heat transfer, steam generating pipe, heat transfer criteria, forced circulation, heat transfer medium

ABSTRACT: This work was undertaken due to the fact that while different estimates of critical flows of subcooled liquids or water and steam mixture with low steam content are in good agreement, there is a general disagreement concerning data on flows with higher steam content even under the same experimental conditions. There is also a discrepancy among different studies concerning the qualitative influence of various factors (steam content, mass velocity, tube diameter) on critical heat transfer, which is probably due to the difference in experimental methods. The investigations covered pipes with 5-16 mm i.d. under pressures (49 to $\cdot 196$) $\cdot 10^5$ n/m² and mass velocities of 500-8000 kg/m²sec. Formulas are proposed for critical heat flow. Data on critical heat transfer in vertical steam

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ACCESSION NR: AP4036525

generating pipes with forced circulation of the heat transfer medium were given. It was found that the degree of bursting hazard for steam generating pipes of a given material is determined by the temperature jump occurring at the critical point. The experimental data have been translated into criterial forms, according to the following general lines: (1) the number of steam generating centers on the surface is the same as with volume boiling (G. N. Kruzilin criterion is suggested and its formula given), (2) hydrodynamic characteristics of the flow are ruled by Reynolds criterion for mixtures, and (3) pressure influence is described by Prandtl criterion. Orig. art. has: 5 figures, 11 formulas, no tables.

ASSOCIATION: None

SUBMITTED: 27Jun63

DATE ACQ: 03Jun64

ENCL: 00

SUB CODE: TD

NO REF SOV: 008

OTHER: 001

Card

2/2

SMOLIN, V.

Исследование. Продольной Устойчивости
Самолета ИИ-14Р. В. Смолін. Гражд.
данская Авиация, July, 1957, pp. 15-18.
In Russian. Discussion of means to im-
prove longitudinal stability of the ИИ-14Р
aircraft.

3
1-4E48

AK
RHA

SMOLIN, V., inzhener.

Answer to readers' questions: Some characteristics of the take-off
of the Il-14 airplane. Grazhd. av. 14 no.3:33-34 Mr '57.

(MLRA 10:6)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut Grazhdanskogo
vozdushnogo flota.

(Airplanes--Take-off)

SMOLIN, V., inzhener.

Improving the longitudinal stability of the Il-14P airplane.
Grashd.av. 14 no.7: 15-18 JI '57. (MLRA 10:9)
(Stability of airplanes)

SOV/84-58-4-27/48

AUTHOR: Smolin, V., Engineer

TITLE: Prevention of Runaway Propeller Condition in the Il-14
(Ustraneniye raskrutki vinta na samolete Il-14)

PERIODICAL: Grazhdanskaya aviatsiya, 1958, Nr 4, pp 29-30 (USSR)

ABSTRACT: The article presents an analysis of flight conditions created when the R-50 speed regulator valve sticks in the lower position, jamming the propeller in its minimum pitch position. The State Scientific Research Institute of the GVF has conducted an investigation of flight characteristics of the Il-14 aircraft with a stuck valve under different conditions, the results of which are presented in the article along with recommendations for pilots. Meanwhile the faulty R-50 speed regulator is being replaced by the improved R-50A design. Six diagrams and a table accompany the text.

1. Propellers--Performance
2. Propellers--Safety measures
3. Speed regulators--Design

Card 1/1

SOV/84-58-9-29/51

AUTHOR: Smolin, V., Engineer

TITLE: Super Aero-45 (Super Aero-45)

PERIODICAL: Grazhdanskaya aviatsiya, 1958, Nr 9, pp 22-26 (USSR)

ABSTRACT: The article describes in considerable detail the new Czechoslovak 3-passenger plane now in process of introduction into the operational units of the Aeroflot. The article presents the aerodynamical and flight characteristics of the aircraft including certain special circumstances such as horizontal flight at maximum speed, descent and landing, stability at low speeds, and flight on one engine only. The concluding section deals with the structural strength characteristics of the aircraft. Two tables and 11 diagrams accompany the text.

Card 1/1

KRASOVSKIY, Stepan Akimovich, marshal aviatsii, Geroy Sovetskogo Soyuza;
SMOLIN, V.N., red.; ANIKINA, R.F., tekhn.red.

[Life in the Air Force] Zhizn' v aviatsii. Moskva, Voen.izd-vo
M-va obor.SSSR, 1960. 262 p. (MIRA 13:8)
(Russia--Air force)

VOROZHEYKIN, Arseniy Vasil'yevich, general-mayor aviatsii, dvazhdy
Geroy Sovetskogo Soyuza; SMOLIN, V.N., red.; SOKOLOVA, G.F.,
tekh.n.red.

[Fighter planes] Istrebiteli. Moskva, Voen.izd-vo M-vo obr.
SSSR, 1961. 297 p. (MIRA 14:4)
(World War, 1939-1945--Aerial operations)

SMOLIN, V.N.

Thirty two world records. Vest. Vozd. Fl. no. 10:38-40 0 '61.
(MIRA 15:2)

(Airplanes--Flight testing)

SMOLIN, V.

Is the world really large? Grazhd.av. 18 no.5:24-25 My '61.
(MIRA 14:5)

(Flights around the world)

2c

L 20048-65 EPF(c)/EPF(n)-2/EPR/EWT(m) Pr-4/Ps-4/Pu-4 SSD/AFML DH
ACCESSION NR: AP4049533 S/0089/64/017/005/0335/0344

AUTHORS: Dollezhal', N. A.; Yemel'yanov, I. Ya.; Aleshchenkov, P. I.;
Zhirnov, A. D.; Zvereva, G. A.; Morgunov, N. G.; Mityayev, Yu. I.;
Knyazeva, G. D.; Kryukov, K. A.; Smolin, V. N.; Lunina, L. I.;
Kononov, V. I.; Petrov, V. A.

TITLE: Development of power reactors of the type used in the Beloyarsk Atomic Station with nuclear steam superheat

SOURCE: Atomnaya energiya, v. 17, no. 5, 1964, 335-344

TOPIC TAGS: reactor feasibility study, reactor fuel element, reactor power, reactor coolant

ABSTRACT: After stating that a desirable trend in the development of reactor construction is towards larger per unit power ratings, which call for larger turbine steam pressures and temperatures, the authors discuss the feasibility of further development of uranium-

Card 1/3

L 20048-65
ACCESSION NR: AP4049533

graphite reactors of the channel type, such as are used in the Beloyarsk atomic electric station, with nuclear superheating of the steam. The rating has been increased to 200 MW by changing over from two-loop to single-loop operation and by modifying the working channels. The use of trans-critical parameters will improve the heat transfer and hydrodynamics of the coolant flow and, together with the use of single-pass construction will make ratings of 800--1000 MW possible. Burnup rates of 40--45 thousand MW-day are projected with 5% enrichment. Other topics discussed are possible interchangeability of fuel elements, optimal fuel element construction, optimal channel arrangement, and possible improvements in the neutron balance and distribution. Orig. art. has: 8 figures and 3 tables.

ASSOCIATION: None

Card 2/3

BORISOV, Nikolay Ivanovich; SMOLIN, V.N., nauchn. red.; VORONIN,
A.S., red.

[Standardization of the parameters of motor vehicles]
Standartizatsiia parametrov avtomobilei. Moskva, Izd-vo
Standartov, 1965. 179 p. (MIRA 18:8)

L 2228-66 EWT(m)/EPF(n)-2/T/ DM
ACCESSION NR: AP5023767

UR/0089/65/019/003/0261/0268
621.039.514.23

AUTHOR: Smolin, V. N.; Polyakov, V. K.; Yesikov, V. I.; Shuinov, Yu. N.

25
B

TITLE: Study on a stand of the start-up conditions of the I. V. Kurchatov atomic power plant in Beloyarsk

19
SOURCE: Atomnaya energiya, v. 19, no.3, 1965, 261-268

TOPIC TAGS: atomic energy plant equipment, nuclear power plant, water cooled nuclear reactor, boiling water reactor

ABSTRACT: The hydrodynamic stability of the flow rate of the heat carrier in the channels under boiling conditions was studied, and the switching of heating channels from water-cooling to vapor-cooling operation followed by the attainment of the rating is discussed. Experimental thermotechnical stands were constructed the basic configurations of which corresponded to the technological layouts of the first and second units of the electric power station. On the basis of the data obtained from the experiments performed, operational conditions providing for a stable flow rate and reliable cooling in the evaporating and superheating
Card 1/2

L 2228-66

ACCESSION NR: AP5023767

channels during the start-up period and under rated conditions were selected. It is shown that the method of gradual replacement of water in the superheating channels by a steam-water mixture and then by steam insures an adequate operation of the channels and of the entire system during the start-up period. Orig. art. has: 7 figures.

ASSOCIATION: None

SUBMITTED: 18Sep64

ENCL: 00

SUB CODE: NP

NO REF SOV: 005

OTHER: 003

Card 2/2 *JS*

DOLLEZHAL', N.A.; YEMEL'YANOV, I.Ya.; ALESHCHENKOV, P.I.; ZHIRNOV, A.D.;
ZVEREVA, G.A.; MORGUNOV, N.G.; MITYAYEV, Yu.I.; KNYAZEVA, G.D.;
KRYUKOV, K.A.; SMOLIN, V.N.; LUNINA, L.I.; KONONOV, V.I.;
PETROV, V.A.

Development of power reactors typifying those of the
Beloyarsk Atomic Power Station using nuclear-superheated
steam. Atom. energ. 17 no.5:335-344 N '64. (MIRA 17:12)

KORIN, D. L., kand. med. nauk; SMOLIN, V. V.; GUTKIN, Kh. G.

Injury of the ureters and kidneys in retrograde pyelography.
Urologiia no.3:11-14 '61. (MIRA 14:12)

1. Iz gosspital'noy khirurgicheskoy kliniki (zav. - prof. G. D. Obraztsov) i fakul'tetskoy khirurgicheskoy kliniki (zav. - prof. I. D. Korabel'nikov) Chelyabinskogo meditsinskogo instituta.

(KIDNEYS--RADIOGRAPHY)
(KIDNEYS--WOUNDS AND INJURIES)
(URETERS--WOUNDS AND INJURIES)

NEYMAN, Yu.V.; SMOLIN, V.V.

Wind roses and building in Magnitogorsk. Trudy GGO no.149:
48-52 '63. (MIRA 17:1)

1. Magnitogorskaya sanitarno-epidemiologicheskaya stantsiya.

SMOLIN, V.V.; FOMENKO, V.I.

Hemangioma of the kidneys. Urologiia 28 no.3:49-50 '63
(MIRA 17:2)

1. Iz urologicheskogo otdeleniya (zav. V.V.Smolin) Sumskey
oblastnoy bol'nitsy.

AUTHORS: Smolin, Yu. I., Korelova, A. I. SOV/48-23-6-17/28

TITLE: Investigation of the Ground Surface of Glass and Some Polishing Powders by Means of an Electron Microscope (Issledovaniye shlifovannoy poverkhnosti stekla i nekotorykh poli-ruyushchikh poroshkov pri pomoshchi elektronnoho mikroskopa)

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 6, pp 738 - 740 (USSR)

ABSTRACT: The experiments described in this paper were carried out by means of the electron microscope EM-3. Polystyrene-quartz replicas were used. Figure 1 shows an 8000-times enlarged picture of a glass surface polished with the polishing sand M 20 (20 - 14 μ). The picture shows a mixed relief. A number of papers investigated the various stages of the destruction of the glass surface in various stages of polishing. Figure 2 shows 4 of these pictures, which partly show a sharp structural configuration, and partly cracks. It is shown not to be possible, by means of the here applied methods, to find the microroughness caused by the granulation of the polishing material. As shown by interference investigations, this microroughness is never greater than some \AA , and in order to detect it, high resolving

Card 1/2

Investigation of the Ground Surface of Glass and Some Polishing Powders by Means of an Electron Microscope SOV/48-23-6-17/28

power would be necessary. The work carried out, however, shows that if the replica are carefully produced, it is possible to investigate the structure of the polished layer. Of the polishing powders, CeO_2 and Fe_2O_3 are investigated, and examples are given of both in figures 3 and 4. The working up of these preparations and stabilization of the suspension by means of FeCl_3 is dealt with in detail. There are 4 figures and 5 references, 1 of which is Soviet.

ASSOCIATION: Institut khimii silikatov Akademii nauk SSSR (Institute for the Chemistry of Silicates of the Academy of Sciences, USSR)

Card 2/2

5(4)

AUTHORS:

Stavitskaya, G. P., Smolin, Yu. I.,
Teropov, N. A., Poray-Koshits, Ye. A.

SOV/20-126-3-44/69

TITLE:

On Problems in the Crystallization of Hillebrandite at
Hydrothermal Conditions (K voprosu o kristallizatsii gillebrandita
v gidrotermal'nykh usloviyakh)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 3, pp 616-618 (USSR)

ABSTRACT:

In the introduction to this paper it is pointed out that the phenomenon of the recrystallization of hillebrandite by the solution, as discovered at the laboratory of Academician P. A. Rebinder in the solidification of gypsum, is to be investigated. The samples, which were obtained from a stoichiometric mixture of an amorphous silicic acid and finely dispersed calcium oxide, were investigated by means of an electronic microscope, and the crystals were identified by means of an X-ray phase analysis. In eight pictures made with the electron microscope (Fig 1) the initial mixtures and the products of hydrothermal synthesis within a period of up to thirteen days, and in a diagram the corresponding ionization curves (Fig 2) are shown. The results obtained by the investigations show a crystallization developing in three stages:

- 1) Rapid precipitation of needle-shaped hillebrandite crystals

Card 1/2

On Problems in the Crystallization of Hillebrandite at Hydrothermal Conditions SOV/20-126-3-44/69

from the oversaturated solution. 2) A solution of thermodynamically fluctuating hillebrandite crystals with distorted structure. 3) Increase of hillebrandite crystals with regular lattice, i.e. recrystallization of hillebrandite by the solution. There are 3 figures and 2 references, 1 of which is Soviet.

ASSOCIATION: Institut Khimii silikatov Akademii nauk SSSR (Institute of the Chemistry of Silicates of the Academy of Sciences, USSR)

PRESENTED: October 16, 1958 by P. A. Rebinder, Academician

SUBMITTED: August 21, 1958

Card 2/2

L 61650-65 EWT(m)/T/EWP(t)/EWP(b)/EWA(c) IJP(c) JD/JG
ACCESSION NR: AP5015594 UR/0062/65/000/005/0925/0926
548.73+546.65

22
21
6

AUTHOR: Smolin, Yu. I.; Shepelev, Yu. F.; Bondar', I. A.; Toropov, N. A.

TITLE: Concerning a certain structural type in the series of rare earth oxyorthosilicates 21

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 5, 1965, 925-926

TOPIC TAGS: rare earth compound, dysprosium compound, holmium compound, ytterbium compound, erbium compound, thulium compound, lutetium compound, rare earth oxyorthosilicate, lattice parameter

ABSTRACT: The article reports on certain results of an x-ray analysis of the oxyorthosilicates of dysprosium, holmium, erbium, and ytterbium ($Ln_2O_3 \cdot SiO_2$). Powder patterns obtained with CuK radiation showed that the oxyorthosilicates were completely isostructural. The unit lattice parameters and space group of the single crystal $Yb_2O_3 \cdot SiO_2$ were determined, and the crystal was found to be orthorhombic. The lattice parameters a , b , and c of the oxyorthosilicates of Dy, Ho, Er, Tm, Yb, and Lu were determined and are tabulated. It was found that the oxyorthosilicates of Tu and Lu apparently also belong to the structural type of the other compounds.

Card 1/2

L 61650-65

ACCESSION NR: AP5015594

"A detailed evaluation of the results will be published after a complete determination of the structure of $\text{Yb}_2\text{O}_3 \cdot \text{SiO}_2$, which is now being investigated."
Orig. art. has: 1 table.

ASSOCIATION: Institut khimii silikatov im. I. V. Grebenshchikova Akademii nauk
SSSR (Institute of Silicate Chemistry, Academy of Sciences, SSSR)

SUBMITTED: 22Aug64

ENCL: 00

SUB CODE: IC

NO. REF SOV: 001

OTHER: 000

Card

287
2/2

SMOLIN, A.N.; SMOLIN, Yu.N.

Using zircon paint at Chelyabinsk foundries. Lit. proizv. no.6:
37-38 Je '64. (MIRA 18:5)

ASATIANI, N.M. (Moskva); SMOLINA, A.I. (Moskva)

Social and work adaptation in neurosis of obsessional states. Zhur.
nevr. i psikh. 65 no.5:762-765 '65. (MIRA 18:5)

YAGODKA, P.N. (Moskva); NARODITSKAYA, V.F. (Moskva); POTAPOVA, A.A. (Moskva);
SMOLINA, A.I. (Moskva)

Combined parenteral use of barbamil and caffeine at the present develop-
ment stage of psychiatric therapy. Zhur. nevr. i psikh. 65 no.5:757-761
'65. (MIRA 18:5)

GRITSENKO, I.A.; SMOLINA, A.K.

Changing the design of the holding unit of a cable guide arm in order to eliminate local damage to the drawworks drum. Mash. i neft. obor. no.5:39-40 '65. (MIRA 18:6)

1. Volgogradskiy nauchno-issledovatel'skiy institut neftyanoy i gazovoy promyshlennosti.

KALABINA, A.V.; KOLMAKOVA, E.F.; BYCHKOVA, T.I.; MAKSYUTIN, Yu.K.;
DENISEVICH, E.A.; SMOLINA, G.I.

Substituted vinyl and ethyl aryl ethers. Part 1: Reaction of
phenyl sulfenyl chloride with vinyl aryl ethers. Zhur. ob.
khim. 35 no.6:979-982 Ja '65. (MIRA 18:6)

1. Irkutskiy gosudarstvennyy universitet.

USSR / Farm Animals, Cattle (Small)

Q-3

Abs Jour: Ref Zhur-Biol., No 2, 1958, 7183

Author : V. I. Oryel, G. I. Smolina, T. Ye. Shilina, N.V. Zhma-
kina, L.I. Prikhod'ko, T. T. Fedoseyeva, O.S. Shir-
yayeva, R. Sergeyeva.

Inst : Stavropol Agricultural Institute

Title : The Effect of Full Value Protein Feeding on the
Thickness of the Wool of Soviet Merino Ewes Two to
Twelve Months Old.

Orig Pub: Sb. nauchno-issled. rabot stud. Stavropol'sk. s-kh.
in-t, 1956, vyp. 4, 79-81.

Abstract: With biologically full value protein feed the
active growth of wool in young ewes occurs at the
age of 2 weeks to six months.

Card 1/1

19

L 52064-65 EWP(e)/EWT(m)/EWP(i)/EWP(t)/EWP(b) IJP(c) JD/JW/JG
ACCESSION NR: AP5012977 UR/0078/65/010/005/1275/1276

AUTHOR: Torshina, V. V.; Smolina, G. N.; Dobychin, S. Ya.

TITLE: Mass-spectrometric study of lanthanum hexaboride evaporation

SOURCE: Zhurnal neorganicheskoy khimii, v. 10, no. 5, 1965, 1275-1276

TOPIC TAGS: ²¹lanthanum ²¹hexaboride, mass spectrometer ion source, gas ionization, lanthanum, boron

ABSTRACT: The evaporation of lanthanum hexaboride was studied with an MS-1305 mass spectrometer at 1000-1800°C. Mass spectra were recorded at each working temperature, and the ionization potentials of the detected ions formed as a result of the ionization of the vapor by electron impact were determined (11.3 eV for La⁺ and 14.0 eV for B⁺). The heat of sublimation was determined from the relationship between ion current intensity and the temperature of the evaporator and found to be 105 ± 12 kcal/g-at. The data show that La⁺ and B⁺ were the only ions formed by electron impact in LaB₆ vapor, and indicate that the sublimation of LaB₆ probably takes place in the form of a compound of La with B (LaB_n) whose dissociation energy is 5.7 eV. The structure of this compound could not be identified on the basis of the available

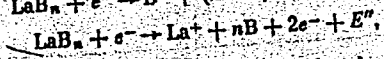
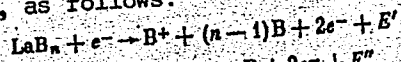
Card 1/2

30
B

L 52064-65

ACCESSION NR: AP5012977

data. When the molecule collides with an electron, it dissociates to form either a lanthanum ion, or a boron ion, as follows:



where E is the sum of the kinetic energy and dissociation energy of the fragments of the molecule. Orig. art. has: 1 figure, 1 table, and 2 formulas.

ASSOCIATION: none

SUBMITTED: 03May63

NO REF SOV: 000

ENCL: 00

OTHER: 002

SUB CODE: IC, OP

me
Card 2/2

SMOLINA, I., inzhener; YARINA, G.

Using large brick blocks. Stroitel' 2 no.7:10-12 J1 '56. (MIRA 10:1)

1. Instruktor Ukrainskogo filiala instituta Orgstroy Minmetallurg-
khimstroya SSSR. (for Yarina).
(Building blocks)

SMOLINA, I.

The Institut sponsors a school of building. Prof.tekh.obr. 13
no.4:31 Ap '56. (MIRA 9:8)
(Building trades--Study and teaching)

SMOLINA, I., inzhener.

~~Warm mastic.~~ Stroitel' no.1:15 Ja '57.

(MLBA 10:2)

(Cement)

GENKIN, G.L.; SMOLINA, I.A.

New displays at the permanent All-Union Exhibition of Construction
and Architecture. Stroi. pred. neft. prom. 3 no.6:27-30 Je '58.
(MIRA 11:7)

(Oil fields--Equipment and supply)

L 45663-66 EWP(e)/EAT(m)/T/EWP(t)/ETI IJF(c) JD
ACC NR: AP6025459 (A) SOURCE CODE: UR/0080/66/039/007/1468/1470
45
B

AUTHOR: Torshina, V. V.; Smolina, G. N.; Dobychin, S. L.

ORG: Leningrad State Institute of Applied Chemistry (Leningradskiy gosudarstvennyy institut prikladnoy khimii)

TITLE: Mass spectrometric investigation of evaporation of the hexaborides of certain metals

SOURCE: Zhurnal prikladnoy khimii, v. 39, no. 7, 1966, 1468-1470

TOPIC TAGS: vaporization, boride, cerium compound, barium compound, calcium compound, mass spectroscopy, heat of sublimation

ABSTRACT: The process of evaporation of CeB_6 , BaB_6 , and CaB_6 was studied in the 900-1700°C range under non-equilibrium conditions in vacuo and the heats of sublimation were determined. The hexaborides were vaporized by electron impact technique and the vapor compositions were monitored by the MS-4 mass spectrometer. It was found that during the heating of CeB_6 in vacuo at 1400-1900°C, two simultaneous processes occur: vaporization of CeB and its dissociation into elements. At temperatures below 1700°C, evaporation of CeB predominates while above 1700°C dissociation of CeB predominates. The dissociation energy of CeB was found to be 4.3 eV. It was found that heating of BaB_6 and CaB_6 invariably leads to their dissociation into elements which evaporate.

UDC: 543.51+546.271

Card 1/2

L 45603-66

ACC NR: AP6025459

The heats of sublimation for all three hexabromides are tabulated. Orig. art. has: 2 tables, 1 formula.

SUB CODE: 07/ SUBM DATE: 13Mar65/ ORIG REF: 005/ OTH REF: 003

Card 2/2 fv

SMOLINA, I.A., inzh.

Using suspended scaffolding of a new design in facing graduating
towers. Nov. tekhn. i pered. op. v stroi. 20 no. 7:30 J1 '58.
(MIRA 11:8)

(Scaffolding)

SMOLINA, I.A., inzh.

"Mechanization of calculations in construction by M.M. Rappoport.
Mont.i spets.rab. v stroi. 24 no.12:29 D '62. (MIRA 15:12)
(Construction industry--Accounting) (Machine accounting)
(Rappoport, M.M.)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

1ST AND 2ND ORDERS PROCESSES AND PROPERTIES INDEX 3RD AND 4TH ORDERS

BC A-1

Electro-osmosis as a method of studying the process of precipitation of nickel and cobalt hydroxides. V. G. ZAPROSNYOV and L. B. SMOLINA (Bull. Univ. Ann. Centrale, 1965, No. 21, 25-27).—
Precipitation of Ni(OH)_2 and Co(OH)_2 in aq. alkaline sucrose and tartarate is followed by means of electro-osmotic measurements, involving determination of ζ - and ϕ -potentials.
 R. T.

COMMON (LITERATURE) MATERIALS INDEX

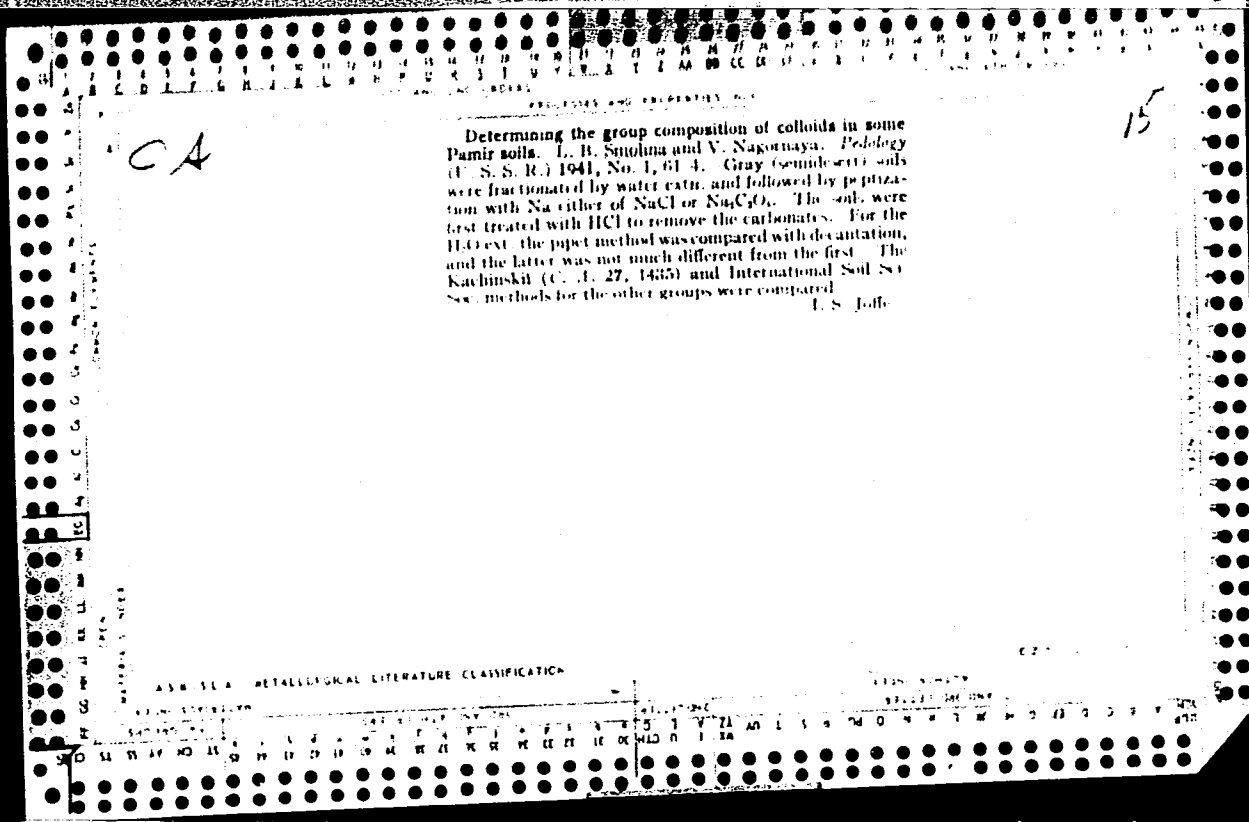
ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

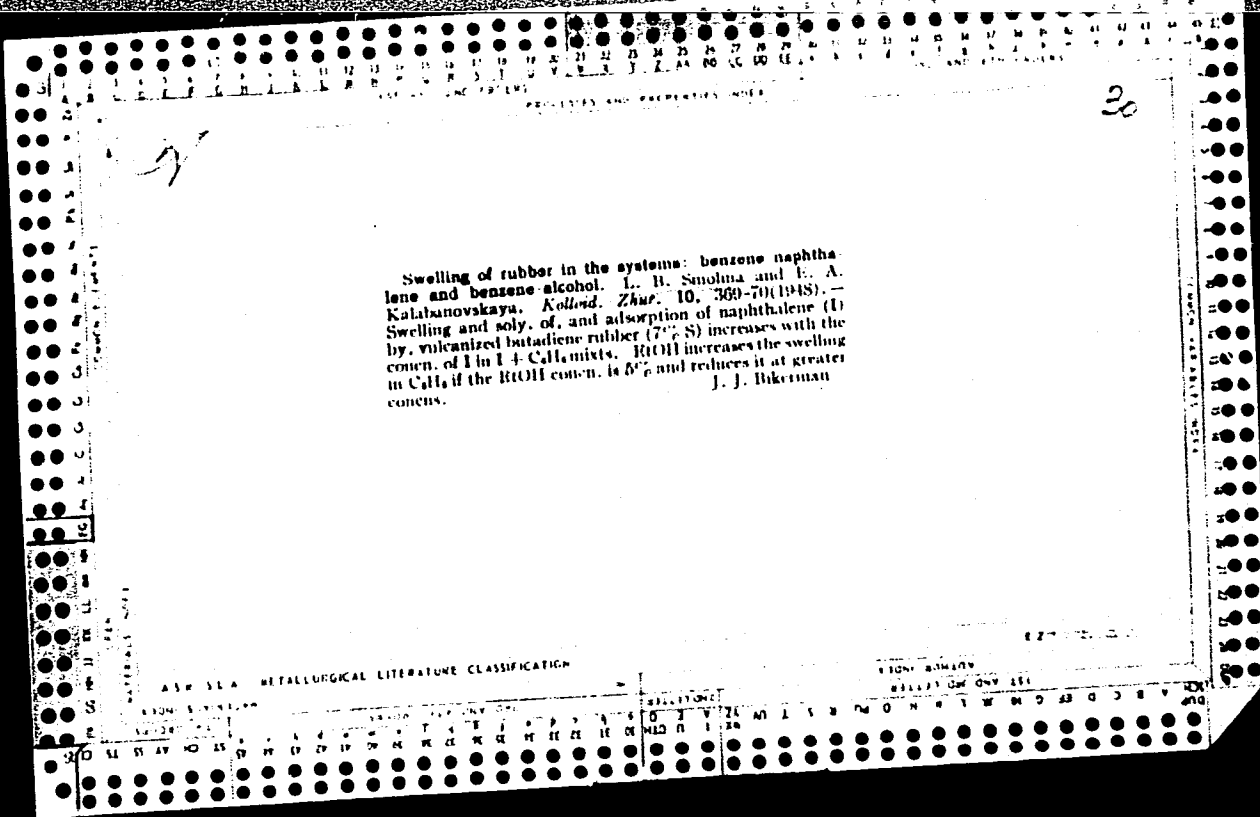
SECTION DIVISION

SYMBOLS

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SMOLINA, L. B.

PA 63/49T13

USSR/Chemistry - Haloxylon
Chemistry - Carbon, Active

Jul 49

"Activating the Carbon in Haloxylon," L. B. Smolina,
Ye. N. Sheyn, 1/6 p -Lab. Colloid Chem., Tashkent Agric. Inst.

"Priroda" No 7

Carbon from haloxylon can be used as an adsorbent in filters for purifying water. It is also used to extract certain binary salts, iodine and acids from aqueous solutions. Activated carbons obtained by a water-vapor method are capable of absorbing iodine (220 mg/g) and acids, but are less capable of absorbing alkalis, methylated alcohol, and chlorine gas.

63/49T13

SMOLINA, L. B.

FA 63/49T12

USSR/Chemistry - Carbon, Active
Chemistry - Absorption

Jul 49

"Activating Carbon From Some Ligneous Rocks of
Central Asia," L. B. Smolina, Ye. M. Sheyn, 1/6 p

"Priroda" No 7

Activated carbon manufactured from local Central
Asian wood has been little studied. Lab of Colloidal
Chem, Tashkent Inst of Agr, has been conducting
experiments in which such wood was exposed to steam
at temperatures of 350 - 800° for 1 - 6 hours. Gives
statistics for various sorts. Especially recommends
"Karcha" for use in obtaining activated carbon as it
is capable of absorbing 260--300 mg/g of iodine.

63/49T12

2/50135

USSR/Chemistry - Benzene, Rubber - Swelling in Rubber, Swelling of Sep/Oct 49

"Effect of Benzene-Naphthalene and Benzene-Alcohol on Swelling of Rubber," L. B. Smolina, Ye. A. Kalabnovskaya, Lab of Colloid Chem, Tashkent Agr Inst, 2 pp

"Kolloid Zhur" Vol X, No 5

Addition of up to 30% naphthalene or 5% ethanol considerably increases swelling of vulcanized butadiene rubber in benzene. With decrease of concentration of benzene, amount of liquid

2/50135

USSR/Chemistry - Benzene, Rubber Swelling in Rubber, Swelling of (Contd) Sep/Oct 49

combined by rubbed decreases up to a certain point. Submitted 24 Feb 47.

2/50135

SMOLINA, L. B.

Chemical Abst.
Vol. 48 No. 8
Apr. 25, 1954
General and Physical Chemistry

The water-binding capacity and electrokinetic potentials of potato starch-sucrose-electrolyte systems. L. B. Smolina (Inst. of Agr., Tashkent, U.S.S.R.). *Ukrainian Biochem. J.* 17, 485-95(1950).—Polarimetric and refractometric studies of starch-sucrose-electrolyte systems reveal the existence of hydration maxima at electrolyte concns. of $\sim 20 - 0.01$ meqs./l. The water-binding capacity is decreased along the series $K^+ > Mg^{++} > Al^{+++}$; $K^+ > Na^+ > Li^+$; $CNS^- > I^- > Br^- > NO_3^- > Cl^- > SO_4^{--}$, the effect of acids (HCl > H₂SO₄) being strong even at concns. of $10^{-4}N$. Cations decrease the water-binding capacity more strongly than do anions. Electrolyte concns. of 200 meqs./l. give rise to complete displacement of water adsorbed on the colloidal starch. Measurements of the electrokinetic potentials ζ over the concn. range of $10-0.01$ meqs./l. of electrolyte show that ζ reaches a max. at about 0.1 meqs./l. The observed values of ζ decrease roughly along the series $K^+ > Li^+ > Al^{+++}$; $K^+ > Mg^{++} > Al^{+++}$. It is concluded that at small electrolyte concns. the electroviscosity effect is operative. The occurrence of hydration maxima is attributed to solvation of polar groups on the colloid

I. Piscalnikov

500.41.01.1.6.
USSR/Surface Phenomena. Adsorption. Chromatography. Ion Inter- B-13
change

Abs Jour : Ref Zhur - Khimiya, No 8, 1957, 26366

Author : L.B. Smolina
Inst : Tashkent Institute of Farming
Title : Binding of Water by Starches.

Orig Pub : Tr. Tashkentsk. s.-kh. in-ta, 1956, vyp. 7, 189-195.

Abstract : The water binding capability of potato (I), rice (II), maize (III) and wheat (IV) starches was studied by the refractometric and the polarimetric methods in presence of saccharose and glucose as indicators. The starches may be arranged by their capability to bind water into the series I > III > II > IV at a low indicator concentration and into the series I > II > III > IV at a high indicator concentration. Comparative experiments with gelatin and agar-agar xerogels resulted in the series gelatin > agar-agar > starch. The amount of water bound by starch in the pure solvent was determined by experiments with glucose at low concentrations, and the degree of saturation with water of separate layers of the hydrate coating of micellar starch was computed.

Card : 1/1

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(FOOD,

iodine in areas of endemic goiter in Russia)

(GOITER,

endemic in Russia, iodine in food in areas of endemies)